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1. The Moskovski Ordena Lenina Stankostroitelny Zavod Krasny Proletari (Moscow Order of Lenin Machine Tool Factory "Red Proletarian"), controlled by the Ministry of Machine Tool Construction, is one of the oldest machine tool factories in the USSR. It was founded about 1860. The factory has been enlarged considerably since the revolution and is now one of the largest machine tool factories in the country. Expansion was particularly noticeable in 1931 and 1932.
2. The factory is located at 15 Malaya Kaluzhskaya ulitsa, Moscow. A branch line about 1.5 km in length connects the factory with Kanatchikovo Station on the Moscow Circular Railway. This branch line crosses the following streets: 5th, 6th, and 1st Donskoi ~~Proyad.~~

Products

3. The factory produces lathes of all types. Specialization in the production of lathes began in 1929 with mass production of DiP-20 lathes. This was followed by the production of "DiP-500 and Model 26 lathes. Initially, the lathes produced by the factory were for general use; but later the factory turned out special lathes of a complicated design made up of several components, as well as semi-automatic and automatic lathes. During the war, the factory produced special lathes for the aviation industry, ordnance factories, transport machinery works, and ammunition factories.

4. The following types of lathes are produced:

DiP-20 : A universal lathe which was mass-produced for a period of 10 years. Production was stopped in 1944, when this lathe was replaced by ones of improved design. A great many of DiP-20 lathes are still in use in factory shops.

DiP-200: A universal lathe which is being turned out in great numbers. Weight, about 1.5 ton; height of centers, 200 mm.; distance between centers, 1,000 mm.; motor, 6 KW.

DiP-300: Universal lathe. Weight, approximately 3 tons; height of

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centers, 300 mm.; distance between centers, 1,500 mm.
 Mass produced until 1946, when all drawings and special equipment for the production of these lathes were handed over to a machine tool factory in the Southern USSR. Many of these lathes are used in the shops of the Krasny Proletari Factory.

I D 64 : Universal turning lathe. Weight, about 6.5 tons; height of centers, 400 mm.; distance between centers, 3,000 mm. This is in current production.

I D 65 : Heavy universal lathe, weighing about 12 tons; height of centers, 500 mm.; distance between centers, 5,000 mm. This lathe is in current production.

D1P 162 M: Universal lathe, in current production.

Model 132: Special heavy multiple-tool semi-automatic lathe for turning crankshaft cheeks. This is a heavy lathe weighing about 33 tons.

Model 134: Special multiple-tool lathe for turning connecting rod journals for crankshafts of aircraft engines. A great number was produced during the war. In current production.

Model 135: Special multiple-tool lathe for turning large crankshafts.

Model 136: Special lathe for turning medium-sized crankshafts. Produced at present for the motor vehicle and tractor industry.

Model 141: Special heavy turning and thread-cutting lathe for turning gun barrels up to 6 m. in length. Produced during the war and still in production.

Model 142: A special heavy lathe for turning gun barrels and long pipes. Produced during the war and still in production.

Model 91 (MK-71))

Model 92 (MK-72))

Model 93 (MK-73))

Model 94)

Model 96)

- This group of special medium weight lathes for turning camshafts is in current production.

MT-31 : Special multiple-tool lathe for turning heads of projectiles. Was produced during the war and is still in production.

Model 74: Special lathe for motor vehicle and tractor industry. In current production.

K-121 : Special multiple-tool lathe for turning crankshafts of portable engines.

MK-21 : High-speed turning lathe of latest type. Preparations are being made for this lathe to be produced in large series.

Model 1830 (171): Multiple-tool semi-automatic lathe.

Model 183 (172) : " " " " "

Model 183 A (173): Multiple-tool automatic lathe.

Machine tools 1830, 183, and 183 A are used for turning rail car axles (automatic turning). Rail car works using these lathes have reported that they have speeded up and simplified the production of these axles. These lathes are produced at present in small series.

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- Model 44 : Universal multiple-tool semi-automatic lathe.) These lathes
 (- are produced
Model 45 : Universal multiple-tool semi-automatic lathe.) in medium series.
- Model 1620 : Thread-cutting lathe; 20 KW motor, 250 rpm.
- Model 1720 : Multiple tool semi-automatic lathe for turning articles up to 200 mm. diameter.
- Model 1730 : Multiple tool semi-automatic lathe for turning cylinders, shafts, and pistons.
- K-35 : Multiple-tool semi-automatic lathe for turning aluminum pistons.
- K-74 : Multiple-tool semi-automatic lathe for turning motorcycle camshafts.
- 1 A 283 : Vertical six-spindle multiple-tool semi-automatic lathe for turning articles with a diameter up to 300 mm.
- Model 24 : No details.
- Model 177 : Special multiple-tool semi-automatic lathe.

5. In addition, the factory produces other lathes for special purposes. The designs of many of these special lathes are based on those which are mass-produced. For instance, Model 94 and others are based on DiP-300, and the designs of several other lathes are based on DiP-200.
6. In the Krasny Proletari Factory, as in all machine factories in the USSR, the First Engineering Shop (Pervy Mekhanicheski Tselkh) has a department for the production of agricultural parts. In 1947, approximately 100,000 of these articles, consisting mainly of spare parts for tractors, were produced. Of these, about 60,000 were tractor gears and forks.

Output and Technology

7. Output of the factory is as follows:

1940	about 4,000 machine tools of different types.
1945	" 5,100 " " " " "
Jan. - June 1948	" 3,100 " " " " "
September 1948	" 545 " " " " "
October 1948	" 530 " " " " "
1948 (estimated)	6,300-6,500 " " " " "

8. Some of the lathes are exported, but informant does not know to which countries.
9. In February 1948, the factory pledged itself to complete the Five Year Plan in four years. As the factory is unable to increase, to any great extent, its personnel or equipment, it hopes to fulfill this promise by bringing about organizational and technical improvements, including the following:
- High-speed method of metal treatment (metod skorostnoi obrabotki metallov), supervised by an engineer of the factory named Bolotin.
 - Large-scale use of so-called "adapted" (prisposoblenny) machine tools. These are universal metal-cutting machine tools specially adapted for carrying out a particular operation.
 - Increase in the employment of conveyor belts.
10. The high-speed method of metal treatment, obtained by increasing the rpm of lathes and by using cutting tools made from hard alloys, was in use on a small scale at the Krasny Proletari Factory during the war. This method is now being introduced throughout the factory. The hard alloys are received from the Moscow Hard Alloys Combine. Among the alloys used are T-30K4, T-5K7, and T-15K6.

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11. Technological equipment for adapted machine tools is produced by the factory tool shop. During the first six months of 1948 the factory produced almost as much as during the whole of 1947. This comprised about 2,500 miscellaneous tools, about 500 stamps of various types, and about 7,000 special tools.
12. As a result of these measures, output has increased considerably with the corresponding reduction in the number of man/hours required for a particular operation. Examples of this are as follows:
 - a. In 1946, the production of a universal multiple-tool semi-automatic lathe Model 44 required about 1,800 man/hours; in 1947, about 1,300 man/hours; and in 1948, about 1,100 man/hours.
 - b. In 1946, when the multiple-tool semi-automatic lathe Model 1830 was first manufactured, production required about 13,000 man/hours; in 1947, about 10,000 man/hours; and in 1948, about 8,500 man/hours.
 - c. In 1946, in the first year of production, the multiple-tool semi-automatic lathe Model 183 required about 10,500 man/hours; in 1947, about 8,500 man/hours; and in 1948, about 7,500 man/hours.

The man/hours given above do not include time spent on articles manufactured in other factories, such as ball bearings and castings. Time spent on painting and packing of machine tools is included.

13. The quality of the machinery produced is rising annually as a result of improvement in technical control and technological processes, introduction of conveyer belts and automatic equipment which reduces individual errors and inaccuracies, and increased experience of the workmen.
14. Informant states that the DiP-300 and DiP-200 lathes, mass-produced by the Krasny Proletari Factory at the beginning of the war and in use at the factory, required complete overhaul after two years. The lathes were operated on three shifts, often by inexperienced workmen. At present, lathes are operated for $3\frac{1}{2}$ - 4 years without requiring overhaul and without loss of efficiency, although they work three shifts.

Personnel

15. Director: A. I. Vorobiyev, who replaced P. Taranichev in 1946 when the latter was appointed Deputy Minister of Machine Tool Construction of the USSR. Taranichev was director of the factory throughout the war, during which period Vorobiyev was in charge of the First Engineering Shop.

Chief Engineer: Gannichenko (Stalin Prize Laureate).

Chief Technologist: Shchukarev.

Chief Mechanic: Bolshtein.

Chief Designer: Annenberg (Stalin Prize Laureate). His staff of designers includes Fedin, Surguchev, Bolotin, Levshunov, and Kats.

16. The approximate number of employees of the factory is 6,500.

Shops and Departments

17. Almost all the shops work in three shifts, as follows:

First shift: 8:00 a.m. to 4:00 p.m.
 Second shift: 4:00 p.m. to midnight
 Third shift: midnight to 8:00 a.m.

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18. The factory has the following shops:

1st Engineering Shop: (Pervy Mekhanicheski Tsekh), also called the Machine Tool Engineering Shop (Stanko-Mekhanicheski Tsekh): This is the largest shop in the factory. It manufactures articles used in the mass production of machine tools. Equipped with conveyer belts.

2nd Engineering Shop: A very large shop manufacturing parts for heavy and special machine tools.

1st Machine Tool Assembling Shop (Pervy Stankosbornochny Tsekh): A very large shop engaged in assembling mass-produced machine tools.

2nd Machine Tool Assembling Shop: Also a very large shop employed in assembling heavy and special machine tools.

3rd Engineering and Assembling Shop (Treti Mekhano-Sbornochny Tsekh)

Tool Shop (Instrumentalny Tsekh)

Repair Shop (Remontny Tsekh)

Experimental Shop (Eksperimentalny Tsekh)

Thermic Shop (Termicheski Tsekh)

Electrical Shop (Elektrotsekh)

Forge (Kuznechny Tsekh): Very large and well equipped. The forge now undertakes work which was previously done at other factories. It also does work for the 1st State Bearing Factory i/n L. M. Kaganovich, Moscow.

Planning Shop (Tsekh po Planirovaniyu)

Machine Tool Export Shop (Tsekh Eksportnykh Stankov)

Standardization Shop (Tsekh Normalei)

Steam Power Shop (Parosilovoi Tsekh)

Shop for the Electrification of Machine Tools (Tsekh Elektrifikatsii Stankov)

Packing and Despatch Shop: About 20 machine tools are packed and despatched daily.

Technological Laboratory

Abrasive Material Workshops: Mechanical and chemical treatment of grinding wheels, including testing for strength and balance.

19. Departments of the factory are as follows:

Personnel and Pay Department

Technical Control

Sales Department (Otdel Sbyta)

Chief Mechanic's Department

Planning and Production Department

Design Department

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Supply Department

Training Department (FZO, i.e., factory apprentices' school, for several hundred trainees, which is situated near the factory at 15 Mozhaiskaya ul., Moscow)

Chief Accounting Department

Juridical Department

Standardization Department

Materials

20. Raw material, semi-finished, and finished articles required by the factory are obtained chiefly from undertakings in Moscow Oblast.
 - a. Most of the castings are obtained from the Stankolit Machine Tool Construction Factory, Moscow; some from the Stankolit Factory, Leningrad; and a small quantity from the Tsentrolit Machine Tool Construction Factory, Tbilisi. In addition, castings are received from three iron foundries situated in the Moscow Oblast. The factory produces almost all its forgings, but a few are obtained from the Elektrostal Works at Novo-Kramatorsk, which belongs to the Ministry of Heavy Machine Construction.
 - b. Rolled metal is received from the Serp i Molot Works in Moscow and from the ~~Elekststal Works, which are~~ controlled by the Ministry of Metallurgy.
 - c. Ball bearings are received from the 1st State Bearing Factory in Kaganovich, Moscow; from the 2nd State Bearing Factory, Moscow; from the 6th State Bearing Factory, Sverdlovsk; and from the 3rd State Bearing Factory, Saratov.
 - d. Three-quarters of the nuts, screws, pins, washers, etc., required for the machine tools are received from works in Moscow Oblast; the remainder are made at the factory.
21. Deliveries of raw material and articles are often irregular and cause delay in production. This applies in particular to the deliveries of ball bearings and castings.

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